

transmitting from said transmitting station to said relay station a primary data signal containing a plurality of primary data packets, each said primary data packet intended for a specific one of said receivers.

transmitting from said relay station said primary data signal over a broadband channel to said plurality of receivers;

transmitting an index signal over a narrow band channel from said relay station to said plurality of receivers, wherein said index signal comprises a plurality of index data packets, each said index data packet corresponding to a respective one of said primary data packets and containing address information addressing a specific one of said receivers, said index signal extracted from said primary data signal;

receiving and decoding said index signal at said plurality of receivers;

determining and selecting, at each said receiver, those primary data packets in said primary data signal that are intended for said receiver based on address information in said index data signals; and

extracting and decoding the selected primary data packets in said primary data signal at said plurality of receivers.

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3. (Amended) The method of claim 1 wherein the index signal is transmitted at the same rate as the primary data signal.

4. (Amended) The method of claim 1 where each receiver demodulates and decodes the index data signal in real-time.

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8. (Thrice Amended) A method of transmitting data in a digital communication system between a transmitting station and a plurality of receivers, said transmitting method comprising:

transmitting a primary data signal from said transmitting station to a relay station,

wherein said primary data signal contains a plurality of primary data packets, each said primary data packet intended for a specific one of said receivers;

extracting a plurality of index data packets from said primary data signal at said relay station, wherein each said index data packet corresponds to a respective one of said primary data packets and contains address information addressing a specific one of said receivers;

re-transmitting said primary data signal from said relay station to said plurality of receivers over a broadband channel;

transmitting an index signal from said relay station to said plurality of receivers over a narrow band channel, wherein said index signal contains said plurality of index data packets extracted from said primary data signal for selecting said primary data packets in said primary data signal;

receiving and decoding said index signal at said plurality of receivers;

determining and selecting, at each said receiver, those primary data packets in said primary data signal that are intended for said receiver based on address information in said index data signal;

D3 extracting and decoding the selected primary data packets in said primary data signal at said plurality of receivers

D4 10. (Amended) The method of claim 8 where the primary data signal is transmitted at a rate of variable bit rates from 2 Mbps to 64 Mbps.

12. (Amended) The method of claim 8 wherein the index signal is transmitted at the same rate as the primary data signal.

13. (Amended) The method of claim 8 wherein receiving and decoding said index signal at said plurality of receivers is done in real-time.

D5 14. (Amended) The method of claim 8 further comprising the step of temporarily buffering the primary data signal prior to its demodulation and decoding.

15. (Amended) The method of claim 8 wherein the index signal includes a plurality of packets, each packet in said index signal including an identification field containing information for identifying a particular receiver and a packet identification field for identifying corresponding packet(s) start time in said primary data signal.

16. (Amended) The method of claim 8 wherein the packets in the index signal correspond to the packets in the primary data signal.

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17. (Amended) A broadband communications system comprising:

a relay station including:

receiving means for receiving a broadband primary data signal;

first transmitting means for transmitting said broadband primary data

signal to a plurality of receivers, wherein said broadband signal

[having] includes a plurality of data packets each addressed to a

selected receiver; and

a second transmitting means for transmitting a narrow band index signal

extracted from said primary data signal, said index signal including

addressing information for identifying the location of data packets in

said broadband signal intended for a selected receiver and the start

time of those packet(s); and

a plurality of receivers for receiving said primary data signal and said index

signal, each receiver including:

a first signal processing means for demodulating and decoding said index

signal to extract said addressing information;

a second signal processing means for demodulating and decoding said

primary data signal; and

control means for selectively activating said second signal processing

means based on addressing information in said index signal.

18. (Amended) The communication system of claim 17 wherein said receiver further includes an input buffer for temporarily storing said received primary data signal before demodulating and decoding portions of said primary data signal.

19. (Amended) A receiver for a broadband communication system comprising:
- a first signal processing means for demodulating and decoding a received narrow band index signal to extract addressing information contained in said index signal;
- a second signal processing means for demodulating and decoding a received broadband primary data signal; and
- control means for selectively activating said second signal processing means based on addressing information in said index signal.
- 20 (Amended) The communication system of claim 19 wherein said receiver further includes an input buffer for temporarily storing said received primary data signal before demodulating and decoding portions of said primary data signal.